UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,058	03/11/2004	Bruno Schiavi	2545-0441	4694

7590 06/21/2005

Timothy J. Klima, Esq.
Harbin King & Klima
500 Nineth Street SE
Washington, DC 20003

EXAMINER	
RAO, SHEELA S	

ART UNIT	PAPER NUMBER
2125	

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/797,058	SCHIAVI ET AL.	
	Examiner	Art Unit	
	Sheela Rao	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/27/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-20 are pending and presented for examination.

2. Applicant's submission of references on form PTO-1449, filed 27 October 2004, has been considered. A signed copy of the form is attached.

Claim Objections

3. Claims 1-20 are objected to because of the following informalities:

The claims are objected for containing grammatical and idiomatic inconsistencies. Examiner appreciates that the Applicant is allowed to be his/her own lexicographer. However, grammatical and idiomatic language in the instant claims present difficulties in the interpretation and reading of the claimed features. Applicant is advised to make necessary corrections.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 1 recites the limitation "the machine" in line 5, and the limitation "the output side" in line 8 of the instant claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 4, 5, 9, 11, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Brainard et al., US Patent No. 3,596,153.

Brainard et al. (hereinafter, "Brainard") teach of a machining tool having a positional control system. The system as disclosed by Brainard comprises a device for checking or calculating the position of a spindle which is within a supporting structure and is movable in multiple axes. As per the limitations of instant claims 1 and 11, the positioning device is taught at column 1, lines 56-58, wherein a pair of extensible laser interferometers are arranged to comprise triangulation means for measuring and controlling positional movement of a machine member along orthogonal axes and relative to spacing of the machine frame. Furthermore, Brainard teaches the use of a positional control system, i.e. master control unit, for processing and transmitting the signals regarding distance along with a means for identifying the position of the spindles based on the signals, see col. 3:ll. 19-25 and col. 4:ll. 5-33. With regard to the use of electromagnetic signal emitting and receiving means, Brainard uses laser signals that are signals or waves characterized by variations of electric and magnetic fields as is well known in the art (i.e. "electromagnetic signals" as instantly claimed). Hence, Brainard inherently provides emitting and receiving such signals, see col. 6: ll. 52-72.

As per the limitations of instant claim 4, wherein the spindle is set to motion within the machining zone and a means for detecting the orientation is claimed, Brainard teaches this feature at column 4, beginning at line 5, where the movement of the spindle and position detection is explained. The inclusion of a rotary encoder, as claimed by claim 5, within the detection means for generating rotary motion is taught by the patented invention at column 4, lines 24-28. The use of laser signals, as per claim 9, is taught by Brainard with the use of the laser interferometers as stated at column 1, line 54. The reference of prior art uses the computation method of triangulation, as does the instant invention as per instant claim 12. As initially stated at column 1, line 54, the reference to Brainard discloses the use of triangulation measuring means for measuring and controlling positional movement.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 2, 3, 6, 7, 8, 10, and 13--20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brainard et al., US Patent No. 3,596,153, in view of Kerry et al., US Patent No. 6,218,983.

The claimed limitations as taught by Brainard are stated above in paragraph 7.

Brainard does not teach the use of emitting or receiving electromagnetic signals along with the association of these signals with time, in particular. Kerry et al. (hereinafter, "Kerry") explicitly teaches the use of electromagnetic wave emitters and receivers. Furthermore, Kerry discloses the synchronization and measuring of time with the transmission of electromagnetic signals, see column 3, beginning with line 22. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided such synchronizing and timing as taught by Kerry with the machine tool control and positioning system of Brainard as the two inventions are commensurate and use the same such signals, as is common in the art, for the benefit of increasing accuracy.

As per the use of a gyroscope device in the use of the detection means as claimed by claim 6, Brainard does not teach or suggest such; however, Kerry discusses the use of a gyro for measuring angular positions, see col. 4: ll. 13-15. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the use of gyros as explained by Kerry with the positioning and control system of Brainard so that angular position measurements can be obtained for the additional benefit of sensing pivotal movement that gyros provide.

Claims 7, 13-17 and 8, 18-20, are directed to the electromagnetic waves being in the radio-frequency part of the spectrum and radar waves, respectively. Examiner takes Official Notice with regard to the use of RF and radar waves, as these are well known signals and widely used in the art. Furthermore, the IEEE Standard Dictionary of Electrical and Electronics Terms defines electromagnetic waves as waves characterized by variations of electric and magnetic fields, i.e. electromagnetic waves are also known as radio waves, heat rays, light rays, etc., depending on the frequency.

As per the use of the electromagnetic signal emitting unit and master control unit as one unit, as claimed instant claim 10, it would have been obvious to one having ordinary skill in the art at the time the

invention was made to have combined the signal emitting unit with the master control unit since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893)

10. For the reasons stated above in paragraphs 7 and 9, the limitations of the claimed invention are taught by the prior arts of record; thereby, rendering the instant claims unpatentable.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela Rao whose telephone number is (571) 272-3751. The examiner can normally be reached Monday - Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard, can be reached on (571) 272-3749. The fax number for the organization where this application or any proceeding papers is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. It should be noted that status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see **http://pair-direct.uspto.gov**. Should any questions arise regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sheela S. Rao
Patent Examiner
Art Unit 2125

SSR
June 15, 2005